

## **AUTOMATED MICROSCOPIC IMAGE ACQUISITION, COMPOSITING, AND DISPLAY**

### **ABSTRACT**

5       An automated microscope and computer system captures a set of images for  
a capture area in a plurality of focal planes. The images can then be integrated into  
composite images for browsing to simulate viewing an item, such as a biological  
sample, under a microscope. A corrective filter can be constructed from the images  
to avoid an effect called "tiling." Before capture, variable focal plane error can be  
10   avoided by collecting z locations for a set of points in the capture area. During  
image browsing, entire composite images can be loaded into memory in compressed  
form. Compressed image portions can be pre-decompressed to avoid delay as a  
browsing user navigates throughout the composite images. Pre-decompression can  
be done by a thread separate from the thread performing navigation operations.

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